

Missouri Telehealth Network

Advancing health care through telecommunications



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Telehealth/Telemedicine

- The use of electronic information and telecommunications technologies to support long-distance clinical health care, patient and professional health-related education, public health and health administration

Store and Forward Telemedicine

- Answers consults
 - Diagnosis
 - Recommendations
 - Work up
 - Treatment
 - Follow up
- Notification to referring physician
 - Automatic e-mail
 - Fax



How does it work?

- A videoconferencing system on a semi-private network (MOREnet)
- Systems connect by dialing an internet address like you would dial a phone number
- Can be used for administrative, clinical and educational events

What we do... (over 2000 pt/yr)

- Psych/Mental Health
- Dermatology
- Cardiology
- Radiology
- Neurology
- Rehabilitation
- Child Health
- Surgical Follow-up
- Internal Medicine
- Children w/special needs
- Burn Care
- Pre-op Evaluation
- Emergency Medicine
- Ethics Consultations
- Home Care
 - Dz management
 - Hospice

Why do we do it?

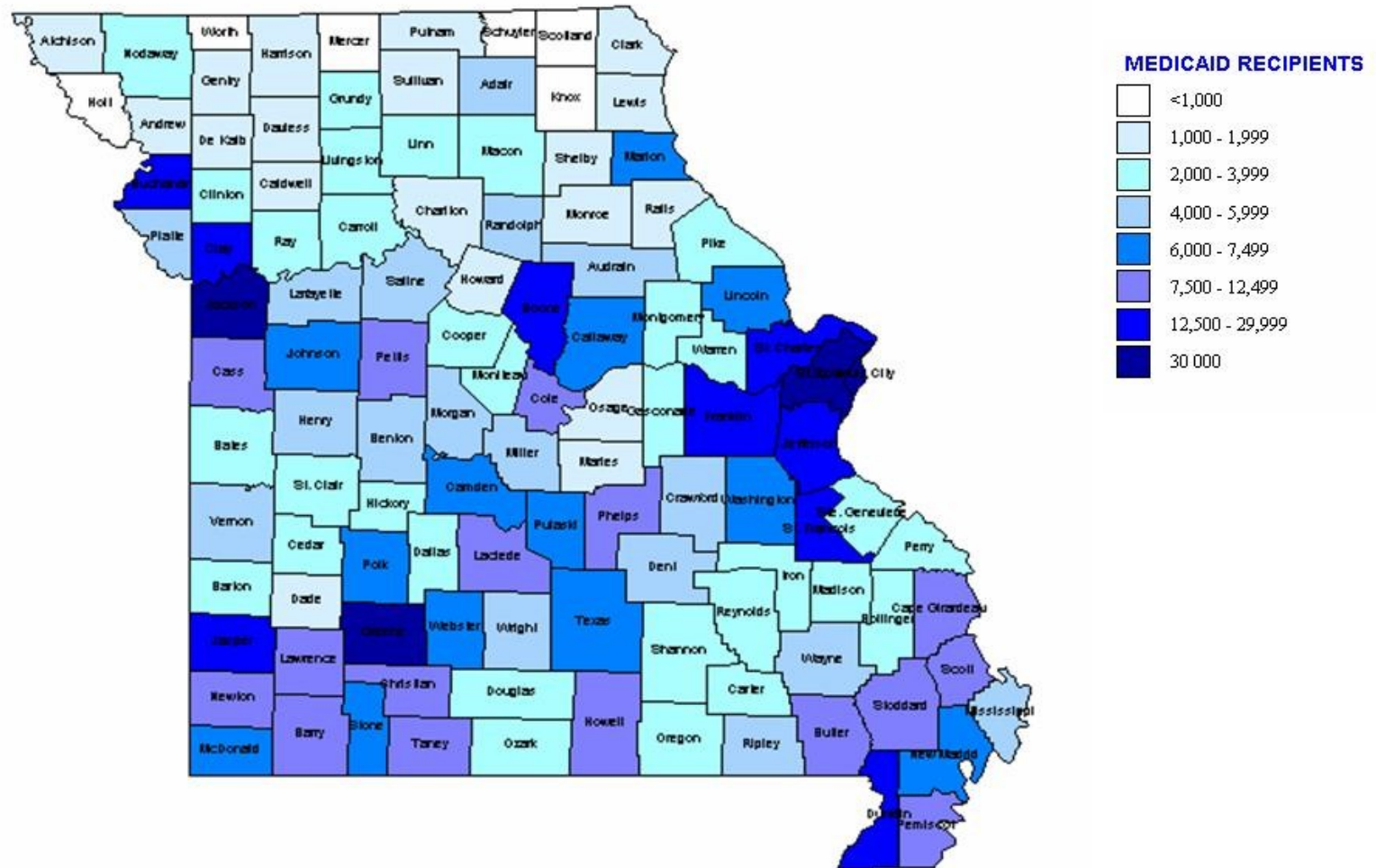
- Safety Net Hospital – care for uninsured, Medicaid, and vulnerable populations
- Location – largely rural practice
- Academic mission – obligation to find ways to deliver high quality care at lower cost

- To provide the right care, at the right place, at the right time and at the right cost
- Quality, access and affordability
 - Reduce repeat visits for same problem
 - Reduce unnecessary & repeat hospitalizations
 - Reduce travel costs and other barriers
 - Patient/Family
 - Employer
 - Community (economic development)

Rural Populations

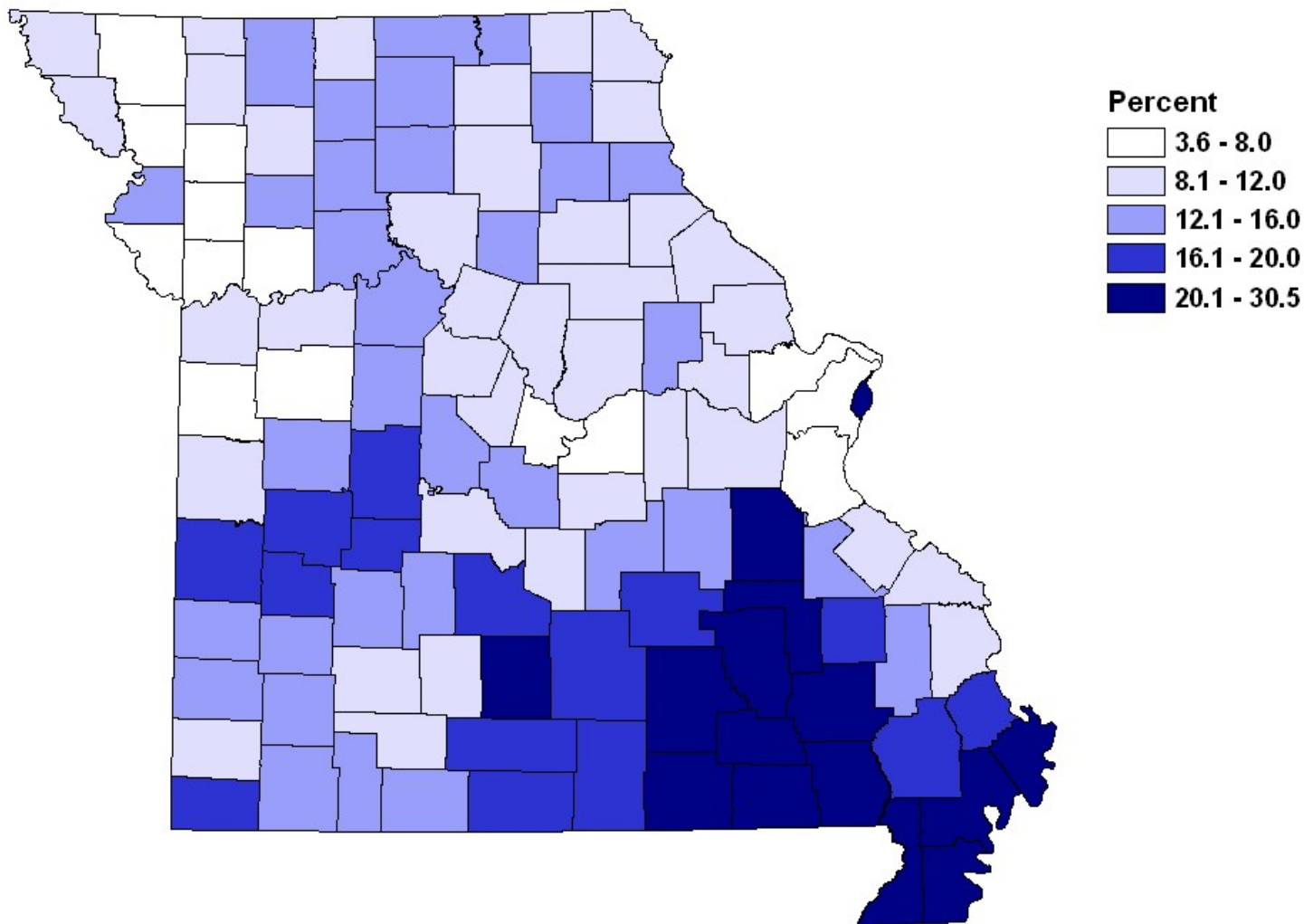
- Nearly one-third of Missouri's population lives in rural areas
- In comparison with urban Missourians, rural residents have
 - Higher poverty rates
 - A larger percentage of elderly
 - Tend to be in poorer health
 - Have fewer physicians, hospitals, and other health resources
 - Face worse outcomes and higher risks of death from traumatic injuries

Total Number of Missouri Medicaid Recipients by County, FY2005



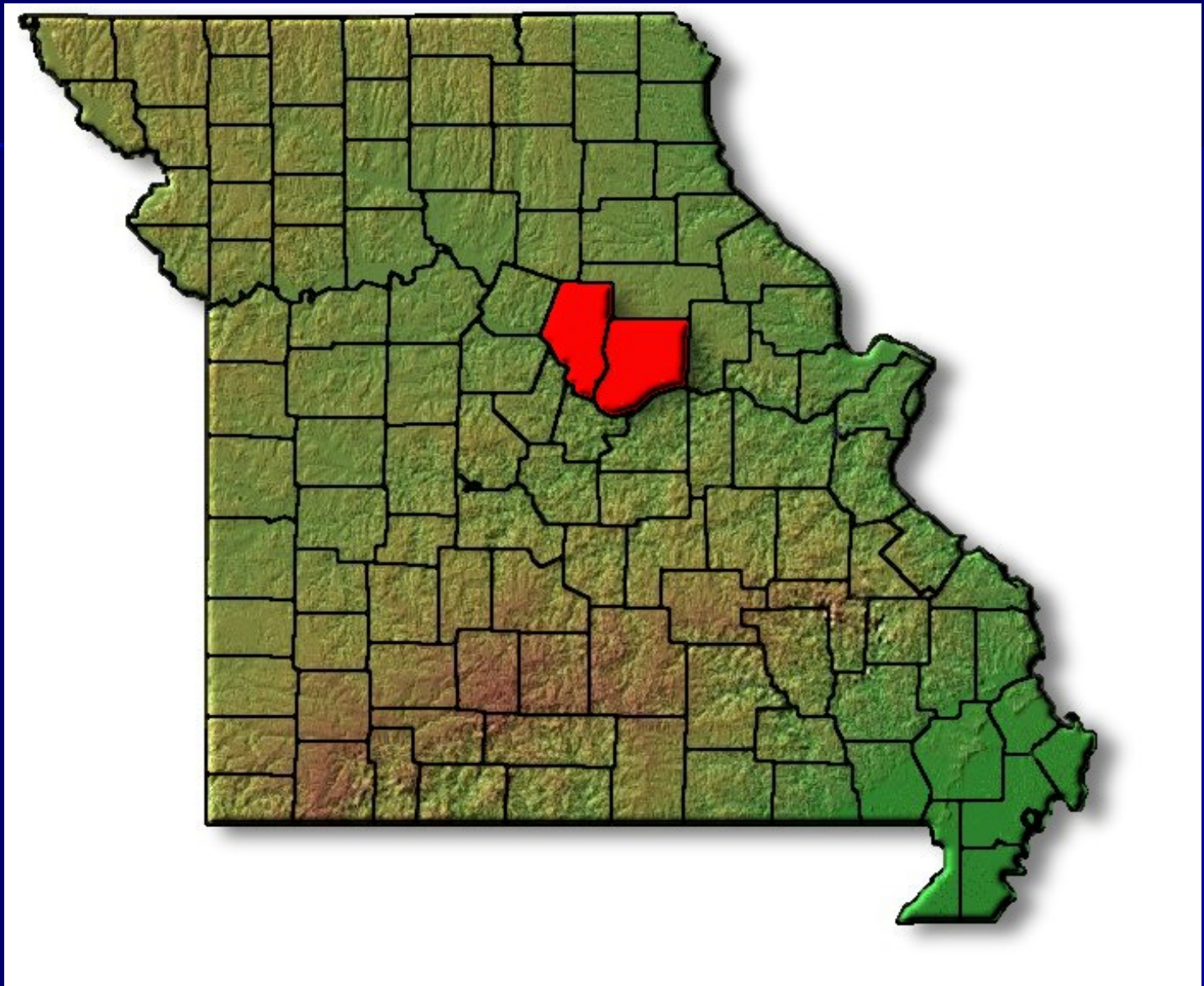
Source: MoDSS Summary Table 5, FY2005. Map produced by the University of Missouri Work Group on Medicaid

Percentage of Adults (20 to 64) Receiving Medicaid by County, FY2005

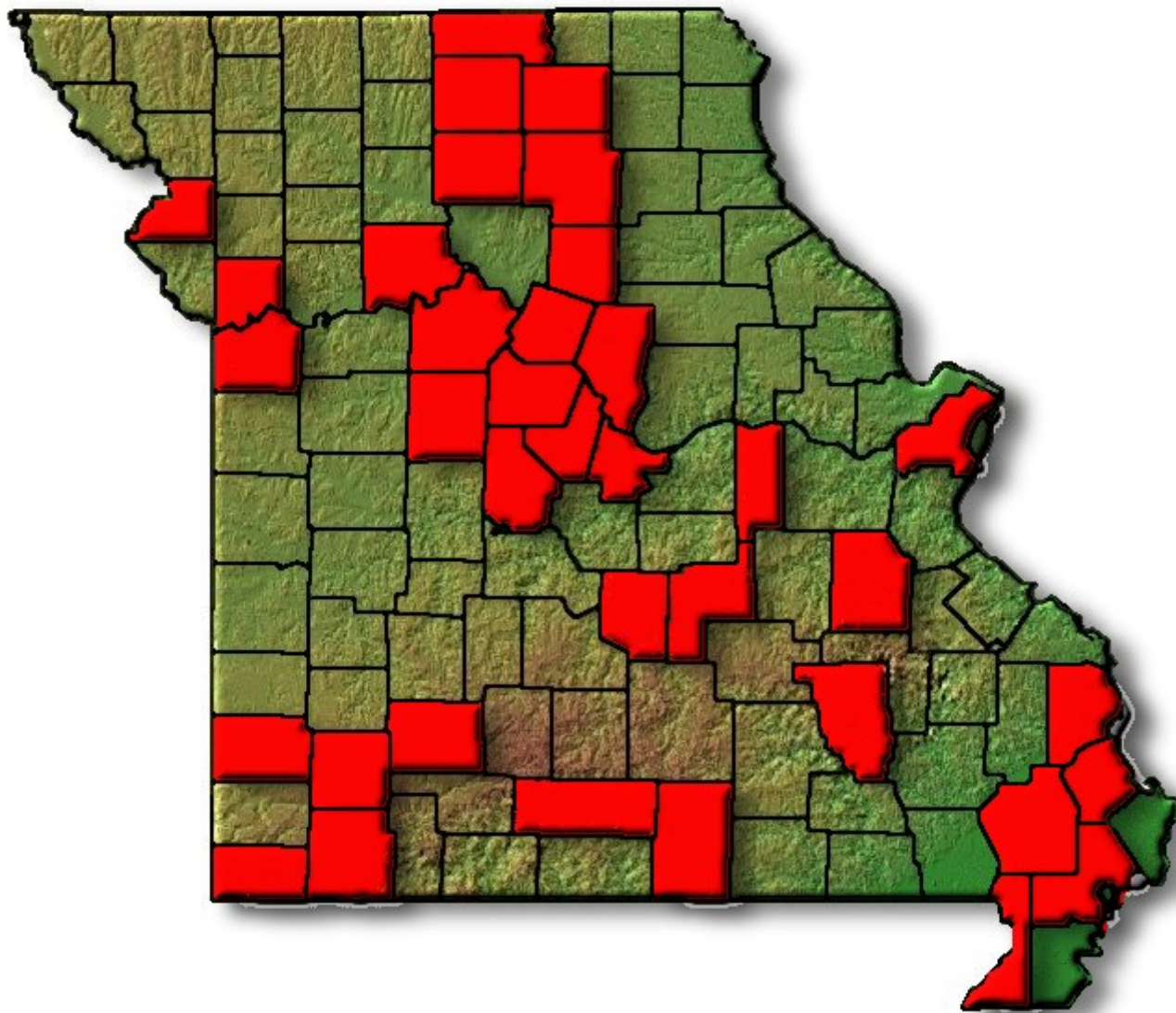


Source: MoDSS Summary Table 5, FY2005. Map produced by the University of Missouri Work Group on Medicaid

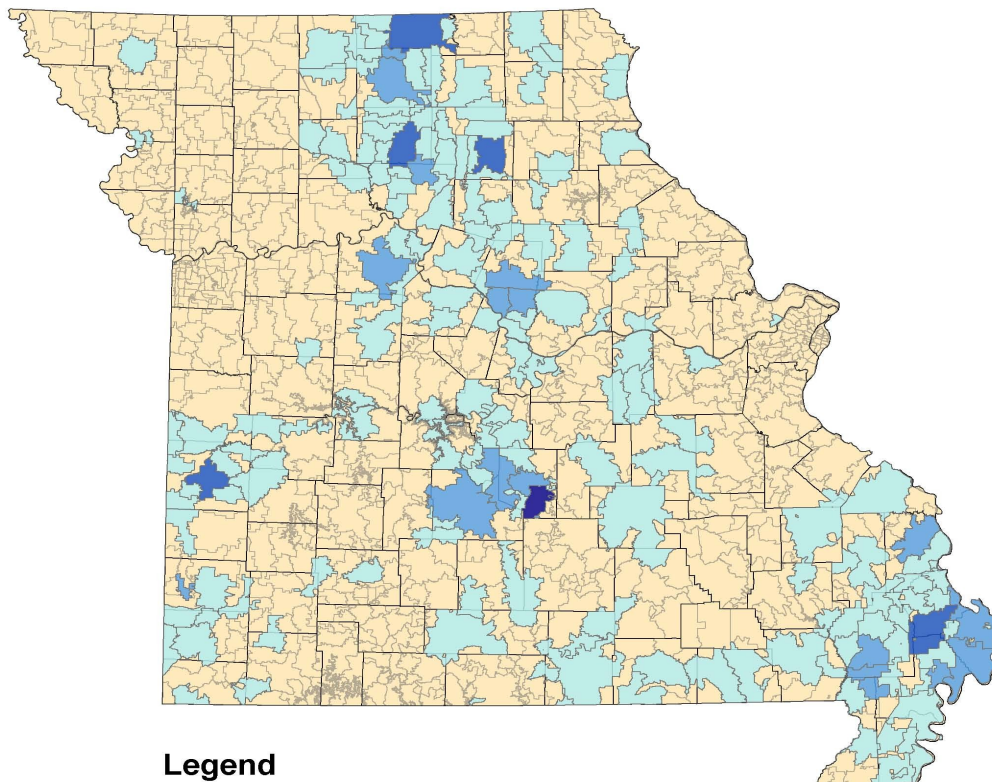
MTN - 1995



MTN - 2005

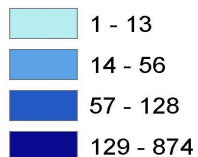


TeleDerm Patients Cases in Missouri, By ZIP Code 2000-2006



Legend

TeleDerm Patients



No Data

Missouri Counties

Making a Difference!

Research
Education
Service

The Missouri Telehealth Network

- Broadband Connections
- Any site can call any other site directly
- It is now integrated into the everyday practice medicine



MTN Team

- Weldon Webb, Director Rural Health Programs
- Karen Edison, Medical Director
- Rachel Mutrux, Associate Director of Telehealth
- Pam Kelly, Assistant Director of Internal Operations and Marketing
- Nikki Fummeler, Administrative Associate
- Frank Gannan, Telehealth Network Specialist
- Mary Beth Schneider, Training Coordinator
- Beth Conklin, Technical User Support

Lessons Learned

- Telemedicine is simply a tool used to deliver health care at a distance
- Telemedicine must be integrated into the everyday way physician's practice
- It works best in augmenting established referral relationships

People are more
important than
technology

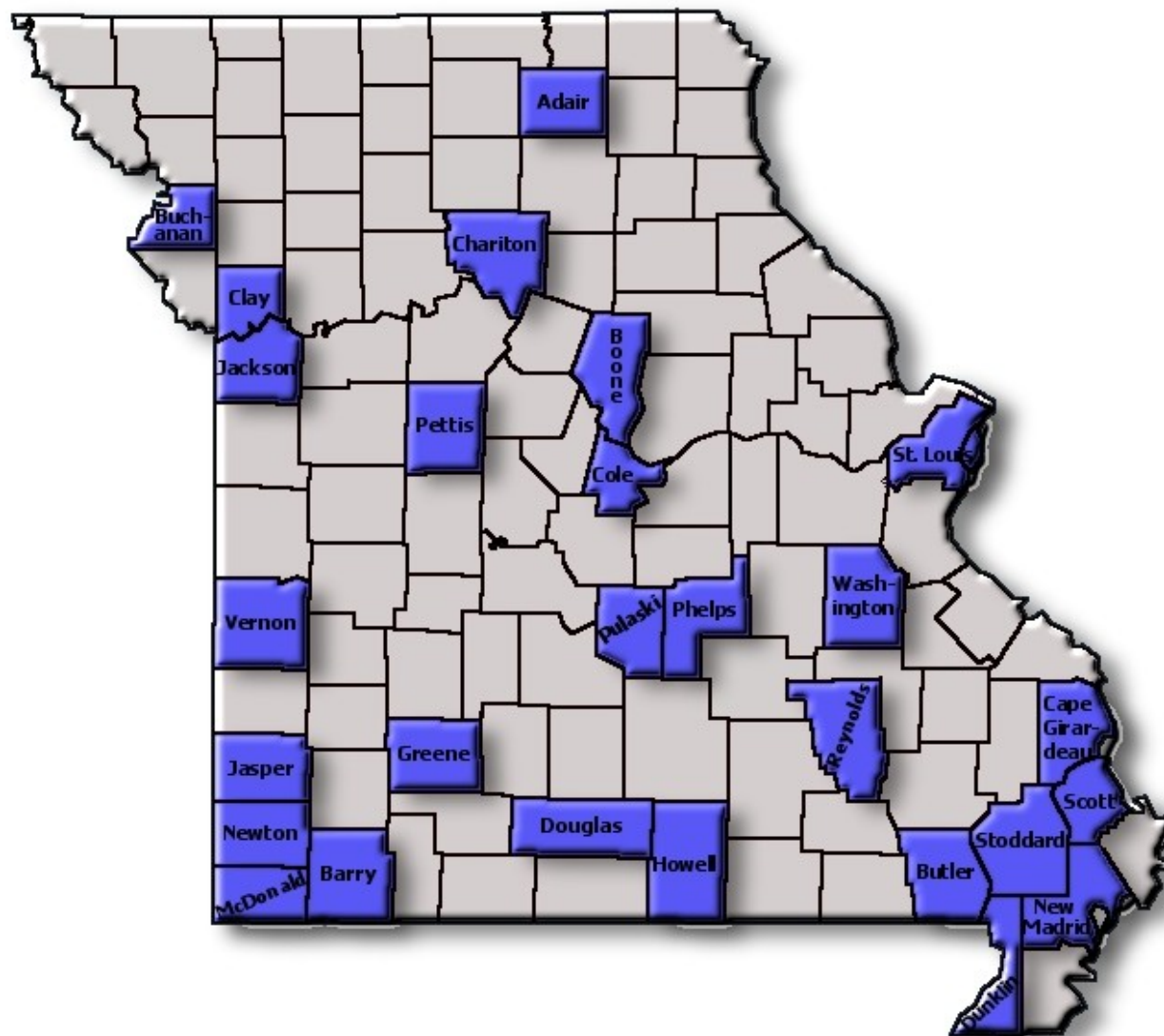
Missouri Telehealth Network Expansion

- Department of Health and Senior Services
 - hospitals for preparedness for bioterror attack or emerging infectious disease
- Missouri Primary Care Association
 - community health centers (FQHCs) for access to needed specialty services and for interpretative services

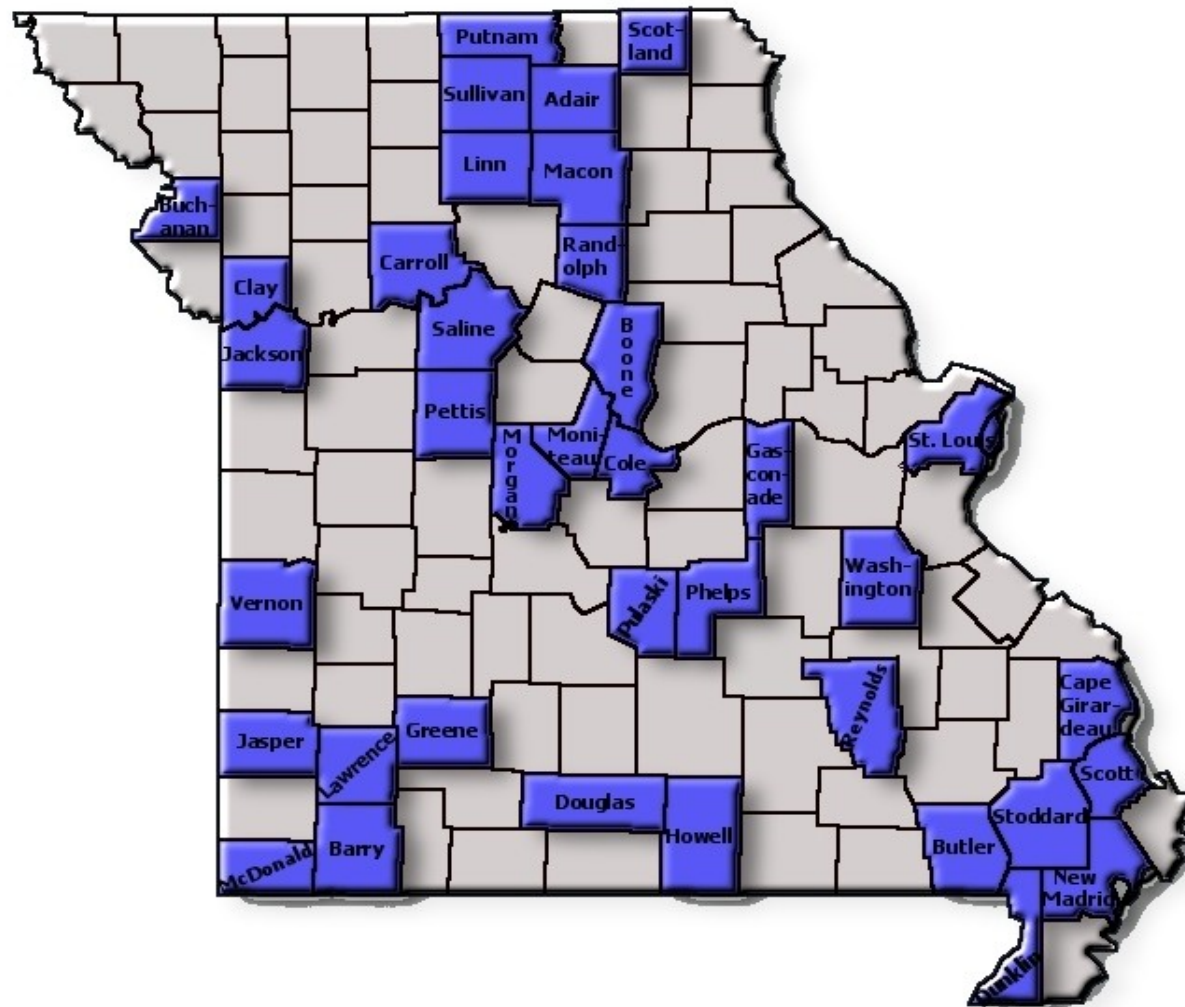
Missouri DHSS project

- to digitally link all Missouri hospitals and community health centers together via a videoconferencing/communications network that will support the delivery of disaster preparedness programs and provide a mechanism to remotely provide clinical services during disasters

Bioattack Emergency Response & Preparedness Network



Missouri Telehealth Network Live Interactive Video



Our Dream.....

Every person will have access
to quality health care –
delivered by the appropriate
provider, in a timely and
affordable manner, no
matter where they choose to
live

How can telemedicine help
Missouri's citizens?

In Missouri

- 92% growth among Latino/Hispanic population from 1990-2000
- Select rural areas experienced enormous growth due to employment opportunities
 - Sullivan (2,164%)
 - McDonald (1,577%, SW corner of state)
 - Barry (1,027%, SE corner of state)

Why are interpretation services important?

- Lack of qualified interpreter services
 - Poor patient understanding of diagnosis, treatment
 - Decreased follow through on medical recommendations
 - Increased use of testing and misdiagnoses
 - Higher hospital admission rates

Why are interpretation services important?

- Health literacy
 - stronger predictor of health status than age, income, education, race/ethnicity
 - impacts health care costs (4 times greater)
- Benefits of interpreter services
 - improves health literacy
 - increases ability of physician to accurately diagnosis and provide medical treatment

Telehealth Interpreting Project

- Increase efficiency by utilizing telehealth to provide interpreting services to multiple FQHCs and hospitals
- Preliminary results show that telehealth interpretation satisfaction rates
 - higher than telephone
 - comparable to in-person

Diagnosing and treating
disease early saves money

What would you have done without this service?

- 14% - would have received care in their local communities from their primary care provider
- 26% - would not have received care
- 59% - would have traveled to receive care, an average of 71 miles one way

Travel cost
vs.
Physician visit cost

Care for captive or difficult
to transport patients

Marshall Habilitation Center

- 400 severely and permanently disabled
- Psychiatry, dermatology, neurology, and general surgery telehealth visits
- So far, total transports avoided were 111 with a savings of \$34,632
- Better Quality at Lower Cost

Home telehealth and remote monitoring

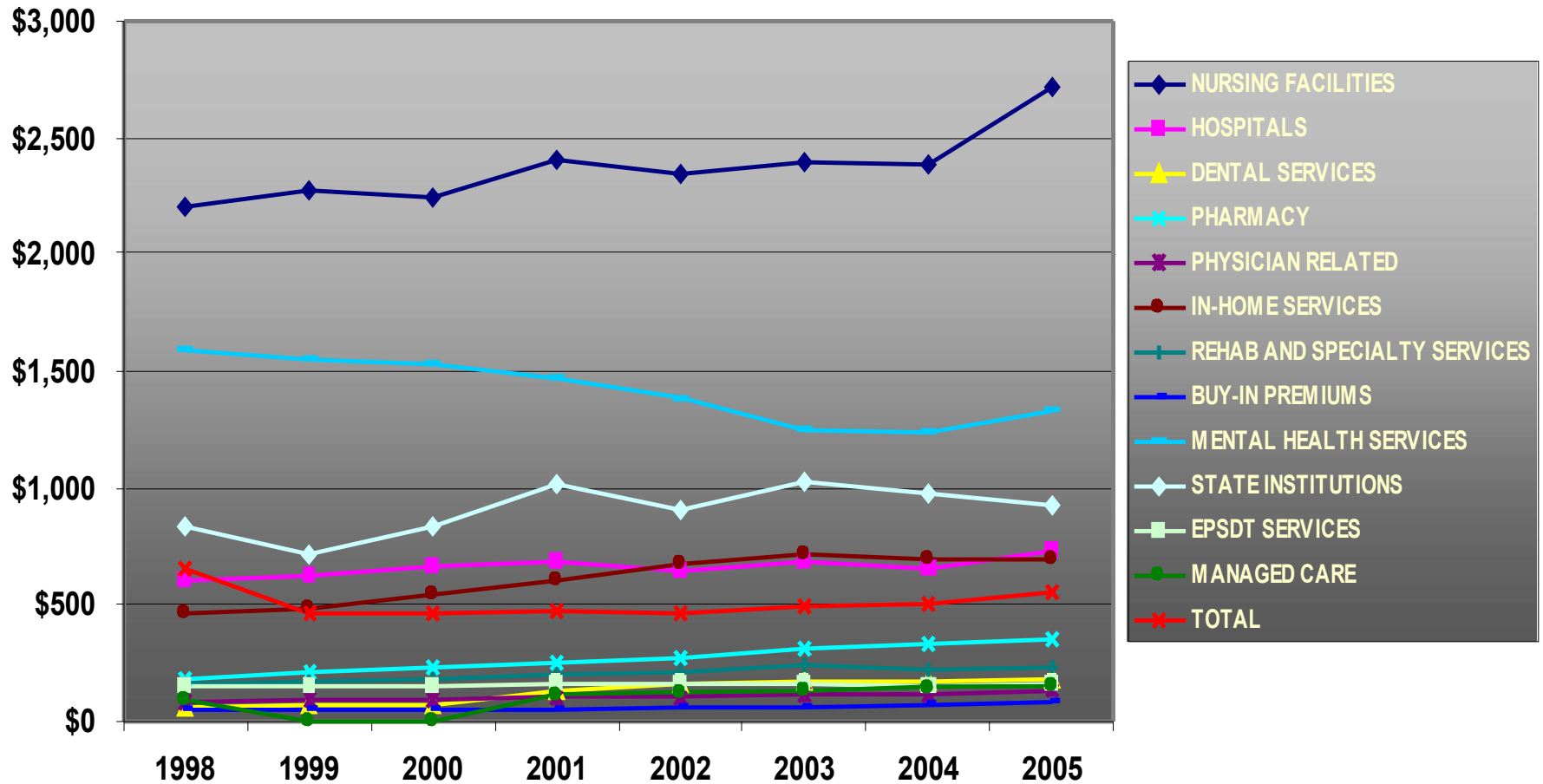
Rolla Home Telehealth Project

- 20% fewer hospitalizations compared to those not being monitored
- overall cost was 28% less in the group receiving home telehealth compared to those receiving routine services
- an average cost savings of \$2250 per patient receiving telehomecare services in a 6 month study period

How can telehealth help?

- Diagnosing and treating disease early saves money
- Saves travel cost for routine patients
- Saves expense for transport of captive populations (state mental health facilities & habilitations centers)
- Home telehealth and remote monitoring keeps patients healthy and at home longer

Average Cost per Recipient by Type of Service, 1998-2005



↑ Quality

↑ Access

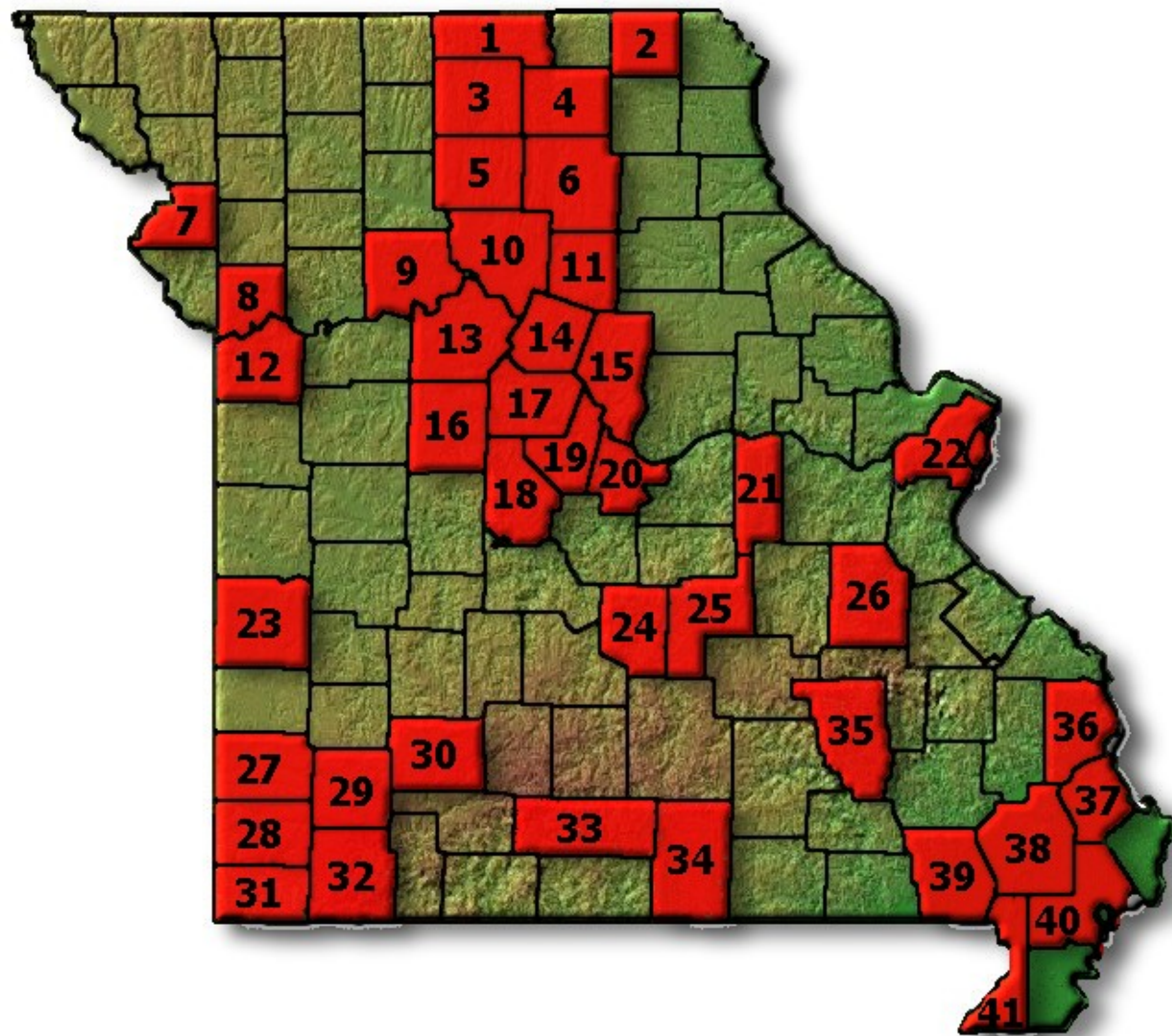
↓ Cost

The Future

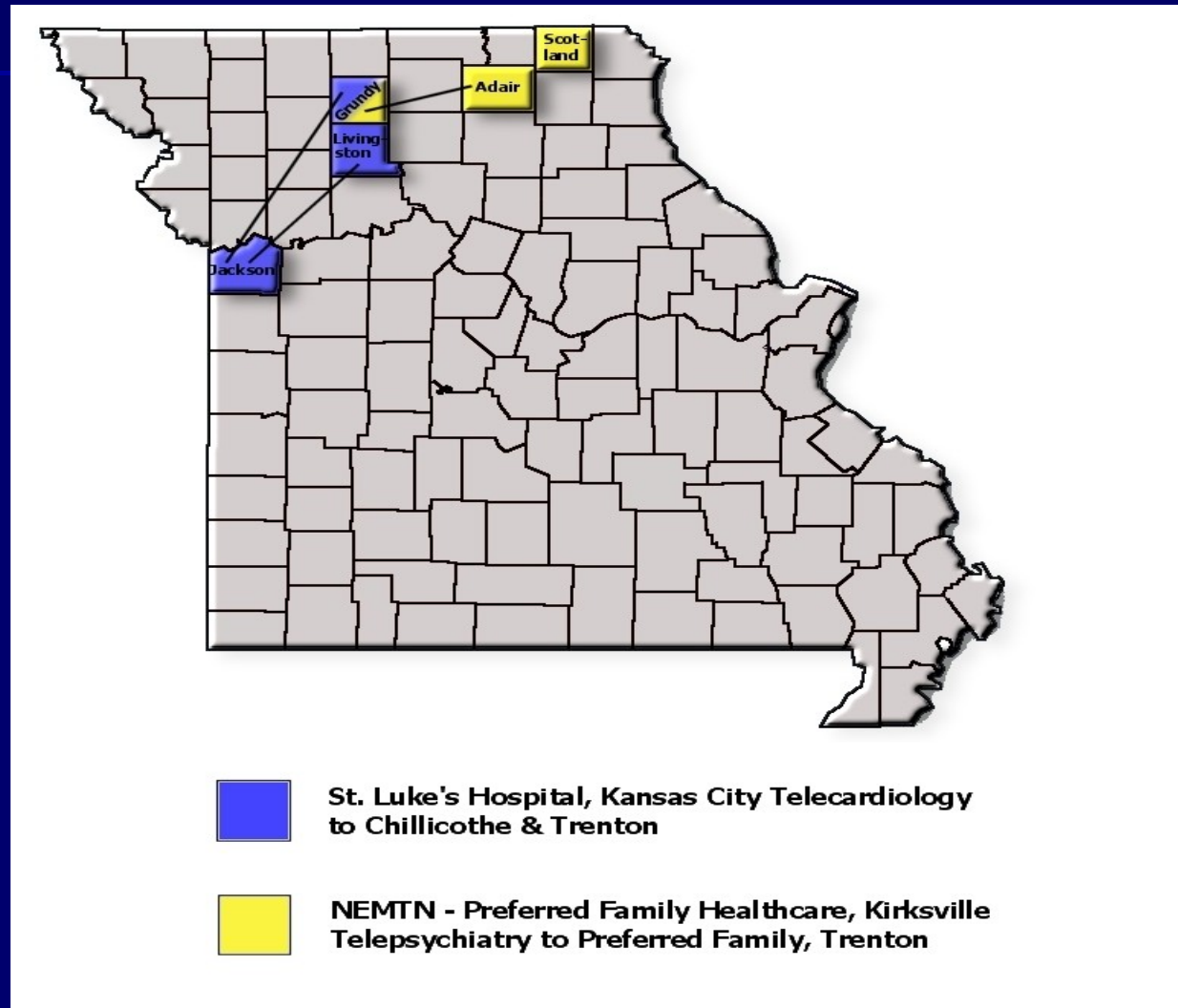
One network throughout Missouri
where any site can connect to any
other site for clinical services,
preparedness training,
administrative meetings and
educational purposes

Telehealth Activity in Missouri

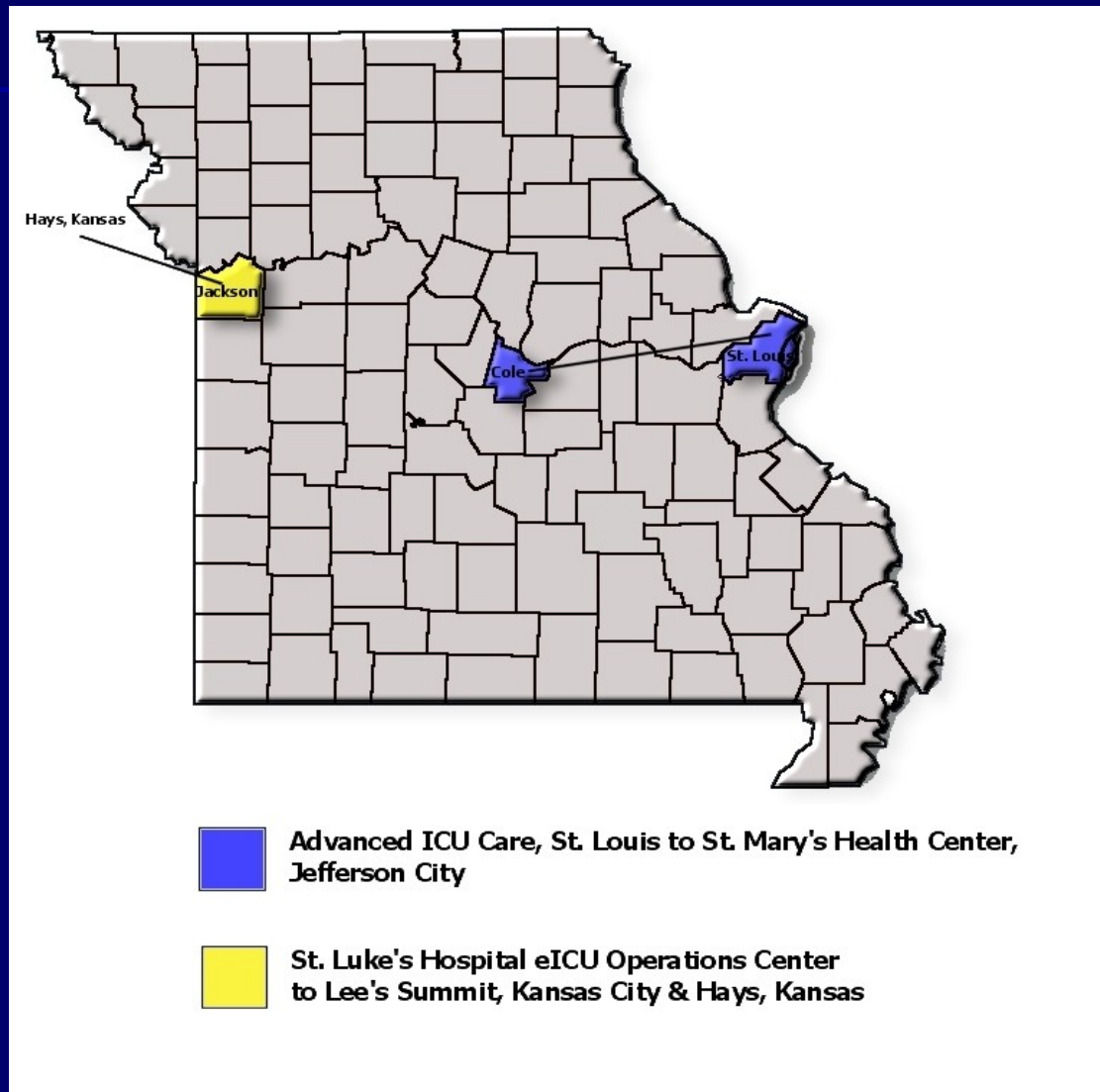
Current & Future MTN Sites



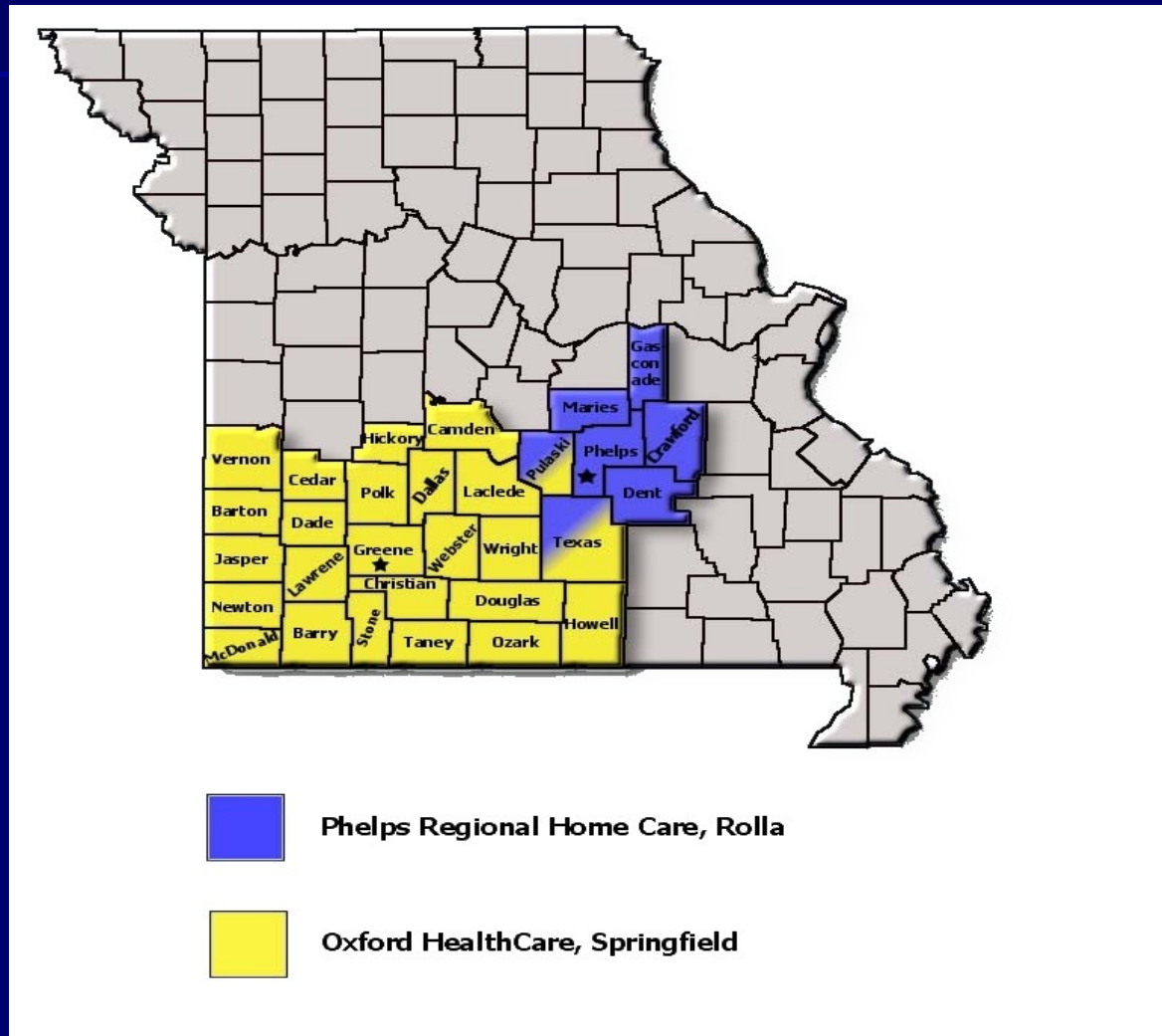
St. Luke's Hospital & NE Missouri Telehealth Network Live Interactive Video



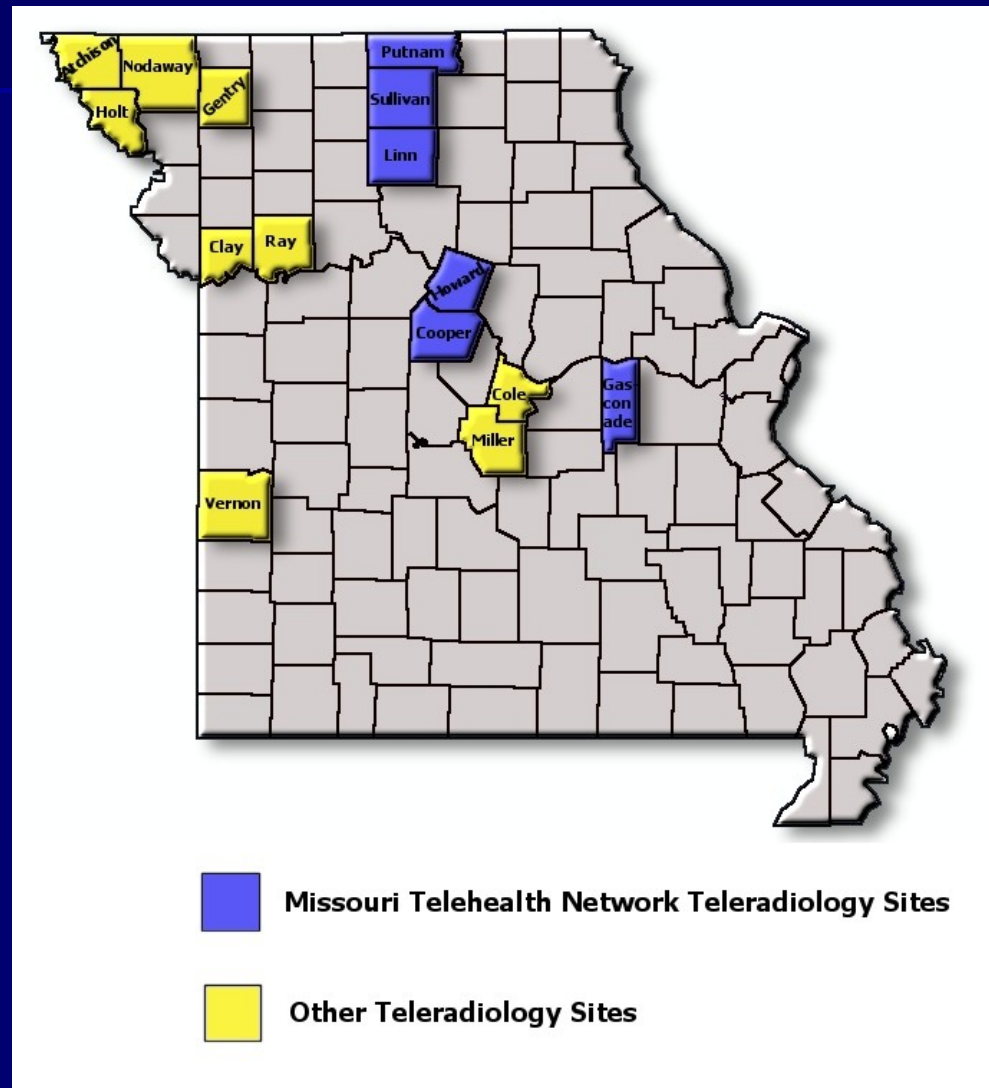
Advanced ICU Care & St. Luke's Hospital eICU



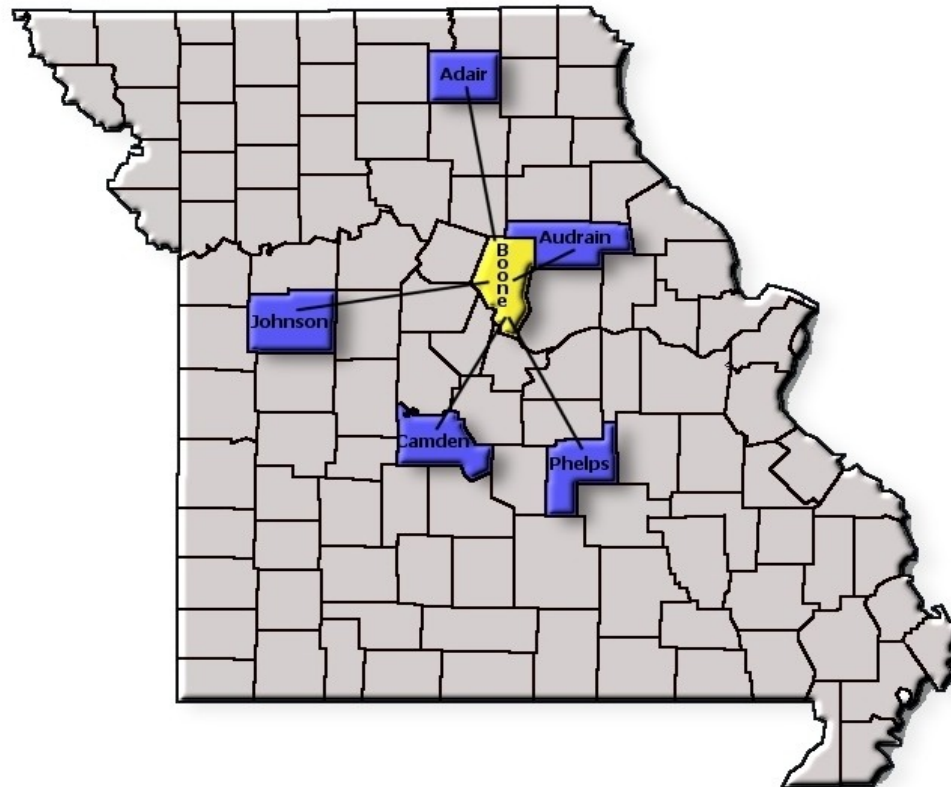
Phelps Regional Home Care & Oxford HealthCare Home Telehealth



Missouri Telehealth Network & Other Teleradiology Sites



VA Hospital & Clinics Telepsychiatry



Boone - Harry S. Truman Memorial VA Hospital, Columbia

Adair - North East Missouri Health Council, Kirksville

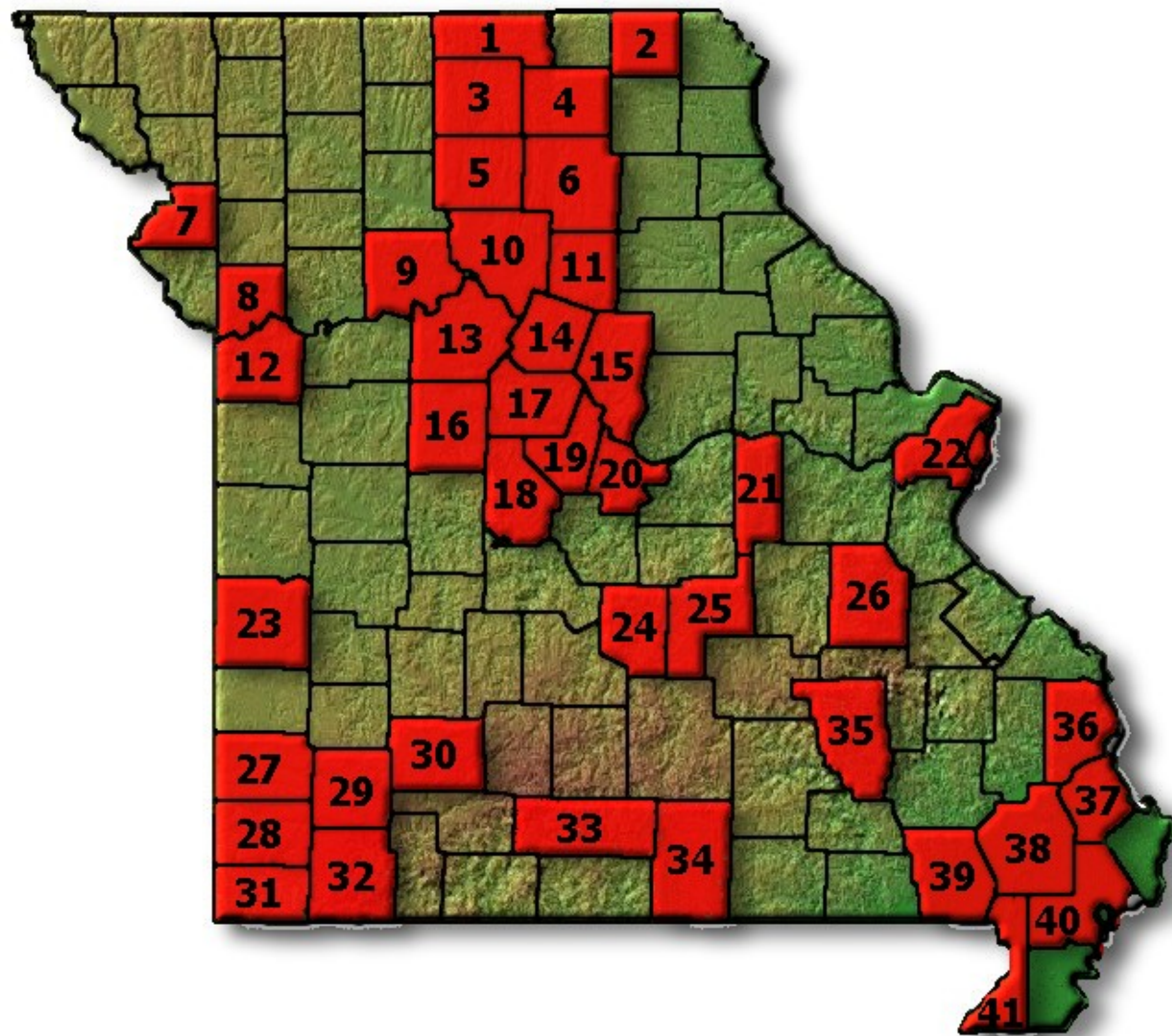
Audrain - Mexico VA Clinic, Mexico

Camden - Lake of the Ozarks Clinic, Camdenton

Johnson - Whiteman Air Force Base

Phelps - St. James VA Clinic, St. James

Current & Future MTN Sites



New ideas.....

Ten years ago -
telemedicine was just an
idea viewed as unlikely to be
of much use

Today –
Telehealth is widely viewed as
a routine way to deliver high
quality health care at lower
cost

